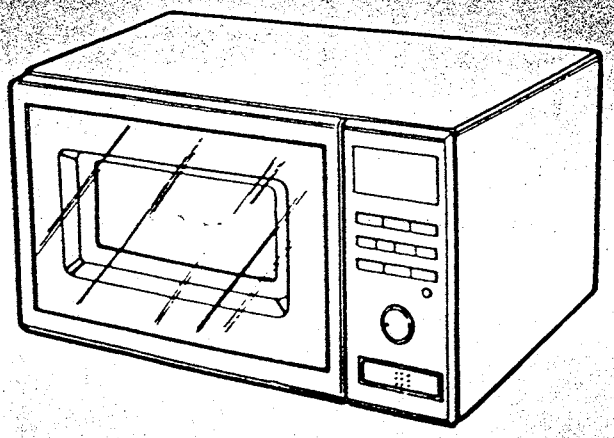
GoldStar Art B

MICROWAVE OVEN SERVICE MANUAL

CAUTION
BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.



MODEL:ER-646ZD

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SAFETY PRECAUTIONS

This device must be serviced only by properly qualified service personnel. Consult the service manual for proper service procedures to assure continued safety operation and for precautions to be taken to avoid possible exposure to excessive microwave energy.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.
(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
(1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
(e) A microwave leakage check to verify compliance with the regulations should be performed on each oven prior to release to the owner.

CAUTION MICROWAVE RADIATION

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDES, FLANGES AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

EARTHING INSTRUCTIONS

For personal safety, this appliance must be earthed. In the event of an electrical short circuit, earthing reduces the risk of electric shock by providing an escape wire for the electric current. This appliance is equipped with a cord having an earthing wire with an earthing plug.
The plug must be plugged into an individual socket that is properly installed and earthed.

WARNING — Use of the unearthed plug can result in a risk of electric shock. Do not, under any circumstances, cut or remove the third earth prong from the power cord.

The consumer should have it checked by a qualified electrician or serviceman if the earthing instructions are not completely understood, or if doubt exists as to whether the appliance is properly earthed.

WARNING - THIS APPLIANCE MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

INSTALLATION INSTRUCTIONS

(1) This appliance must be properly earthed.

(2) Confirm that the power source capacity is adequate.

(3) Use the microwave oven in an ambient temperature of less than 40°C.

(4) Place as far from high temperature heat source and vapour as possible.

(5) Place the microwave oven away from radio, TVs etc.

(6) Place the microwave oven on a stable base.

(7) Avoid placing objects on top cover so as not to obstruct air flow ventilation.

* THE DISTANCE BETWEEN THE BACK OF THE APPLIANCE AND THE WALL SHOULD BE 10CM OR GREATER.

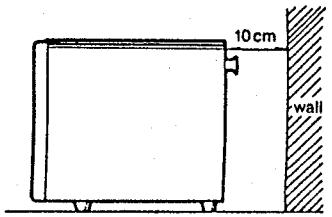


Fig. 1

SPECIFICATIONS

• Power input	: 220V,50Hz~
• Output	: 140W~700W(4 stages)
• Microwave froquency	: 2450MHz
• Outer dimensions	: 510 mm(W) x210 mm(H) x 350 mm(D)
• Cavity dimensions	: 330 mm(W) x 210 mm(H) x 320 mm(D)
• Cavity volume	: 0.8 Cu-ft
• Power consumption	: 1150W
• Timer	: 90 Min.

Specifications are subject to change without notice.

CAUTIONS

CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high voltage, high current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION: REMOVE YOUR WATCH WHEN WORKING CLOSE TO OR REPLACING THE MAGNETRON.

Warning about the electric charge in the voltage capacitor;
For about 30 seconds after the oven stops, an electric charge remains in the high voltage capacitor when replacing or checking parts, short between oven chassis and the "+" terminal of high voltage diode by using a properly insulated jumper wire.

WARNING: THERE IS HIGH VOLTAGE PRESENT, WITH HIGH CURRENT CAPABILITIES IN THE CIRCUITS OF THE HIGH VOLTAGE TRANSFORMER SECONDARY AND FILAMENT TRANSFORMER SECONDARY. IT IS EXTREMELY DANGEROUS TO WORK ON OR NEAR THESE CIRCUITS WITH THE OVEN ENERGIZED.

WARNING: NEVER TOUCH ANY CIRCUIT WIRING WITH YOUR HAND OR INSULATED TOOL DURING OPERATION. DO NOT MEASURE ANY VOLTAGE IN THE HIGH VOLTAGE CIRCUIT INCLUDING FILAMENT VOLTAGE OF MAGNETRON.

WARNING: DO NOT TOUCH ANY PART OF THE CONTROL CIRCUIT A RESULTING STATIC ELECTRIC DISCHARGE MAY DAMAGE THIS CONTROL PANEL.

MICROWAVE RADIATION: PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUT PUT MICROWAVE CONNECTIONS, WAVEGUIDES, FLANGES, AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

OPERATING INSTRUCTIONS

A. FEATURE

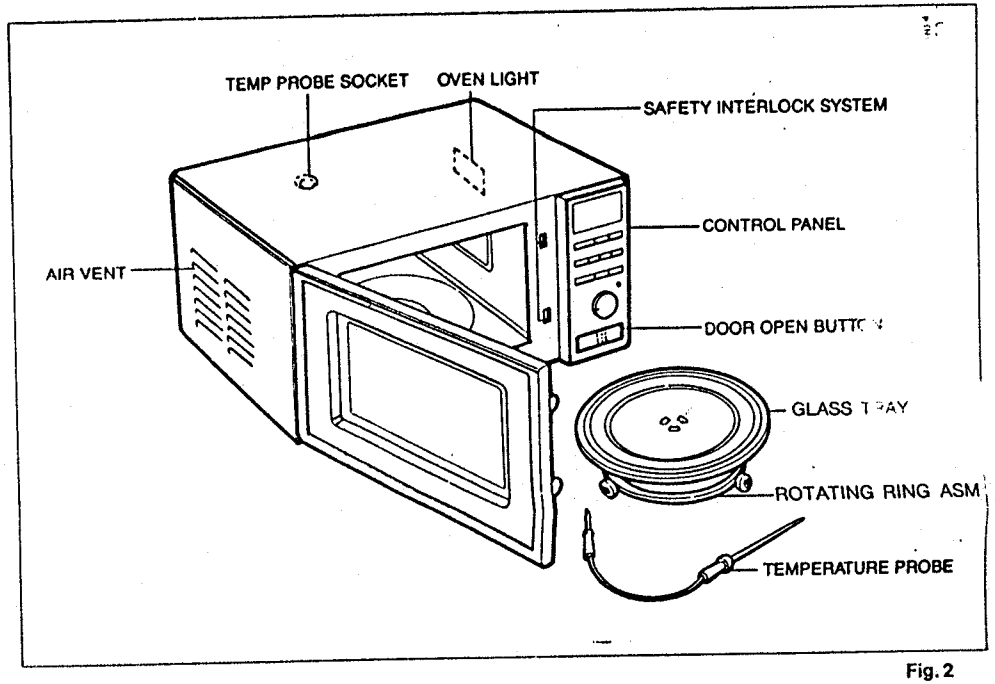


Fig. 2

Remove you oven and all material from the shipping carton.
Your oven will come with the following material:

Owner's Manual	1	each
Cook Book	1	each
Glass Tray	1	each
Rotating Ring Asm	1	each

This microwave oven is designed for household use only.
It is not recommended for commercial purposes.

B.CONTROL PANEL

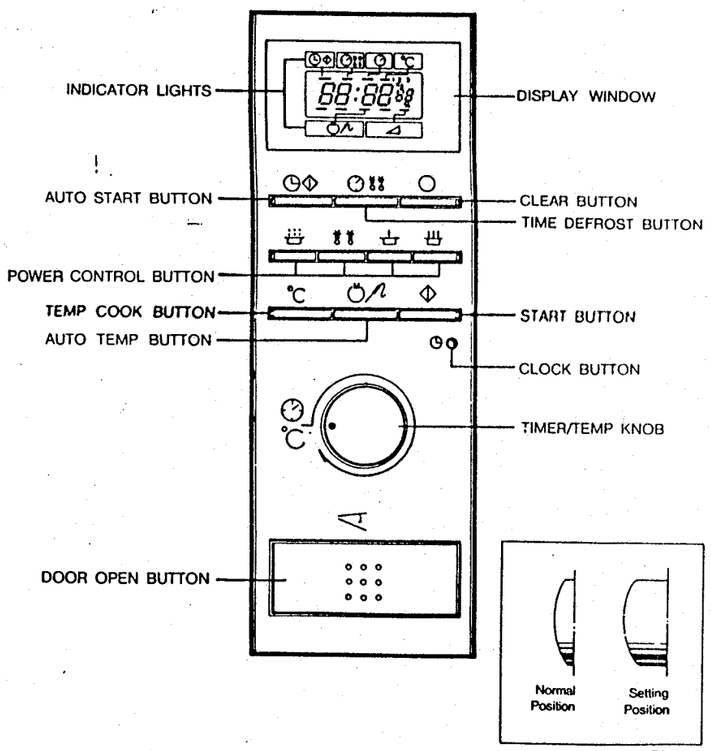


Fig. 3

C. OPERATION PROCEDURE

• AFTER INSTALLATION, THE FOLLOWING SEQUENCES AND RESULTS SHOULD BE CHECKED.

A. Plug the power cord into a three pronged electrical outlet.
B. Colon indicator will flash on and off every second.
C. Put a container filled with water (about 1 liter) into the oven, and close the door tightly. Do not attempt to operate the oven without the turntable in place.
D. Touch button for desired power level.
E. Rotate the Timer/Temp knob with sticking it out (setting position) to set the desired cooking time. (10 minutes; 1000)
F. Touch the START BUTTON to activate the oven. The cooling fan will start, the turntable will begin to rotate and the oven lamp will light.
G. After about 3 minutes, make sure the primary interlock, secondary interlock and monitor switches operate properly by opening and closing the door several times. Touch the START BUTTON each time the door is closed.
H. After ten minutes, an audible signal will sound and the oven will turn off.
I. Confirm the water is hot

SETTING CLOCK

EXAMPLE: The present time is 12:34.

STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Plug the power cord into an electrical outlet.		0	
2. Touch "Clock".	CLOCK	0 00	
3. Rotate the Timer/Temp knob with it out (setting position) to indicate correct hour. (12 hours)	TIMER/TEMP	12 00	The word 12 will show in the display window. The hours will be set.
4. Touch "Clock".	CLOCK	12:00 00	
5. Rotate the Timer/Temp knob with it out (setting position) to indicate correct minutes. (34 minutes)	TIMER/TEMP	12:34 00	At this time the minute will be set.
6. Touch "Clock".	CLOCK	12:34 01	The time will begin running in the display window with no cooking or heating in the oven.

Note: The timer is a 24 hour clock. ("20:30" corresponds to 8:30 PM)

OPERATION SUMMARY

PLUG THE POWER CORD INTO AN ELECTRICAL OUTLET → [illegible] → DESIRED COOKING TIME (HOUR) → CLOCK → DESIRED COOKING TIME (MINUTE) → CLOCK

"MULTI-POWER" COOKING

Many foods need slower cooking (at less than full power) in order to give you the best results. In addition to "FULL POWER (HIGH)" there are four multi-power settings. The cookbook tells you which power setting is recommended for the food being cooked.

STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".	CLEAR		Erase all previous setting except time of day.
2. Touch button for desired power level. (LOW)	LOW	0 00	The bar below time cook will blinks.
3. Rotate the Timer/Temp knob with it out (setting position) to set the desired cooking time. (1 minute)	TIMER/TEMP	1 00 00	The cooking time will show in the display window.
4. Touch "Start".	START	1:00 00	The oven begins to cook and the display window will show the time counting down. Two short and one long tone will sound and the word "End" will show in the display window.

Note
If you touch a wrong button of power level, you can correct it by touching the right button after step 2.

GUIDE FOR MULTI POWER

The "MULTI-POWER" feature lets you can cook at the best power level for the food being cooked. Cooking directions can be found in the cookbook.

POWER SETTING	POWER PERCENTAGE	EXAMPLES
(LOW)	20%	• Softening cream cheese. • Keeping casseroles and main dishes warm.
(DEFROST)	40%	• Thawing meat, poultry and seafood. • Completing the cooking cycle of casseroles, stews and some sauces. • Cooking small quantities of most foods.
(MEDIUM)	70%	• Cooking scrambled eggs.
(HIGH)	100%	• Cooking tender cuts of meat. • Cooking fish, vegetables and most casseroles. • Preheating the browning dish. • Boiling water. • Thickening some sauces.

OPERATION SUMMARY

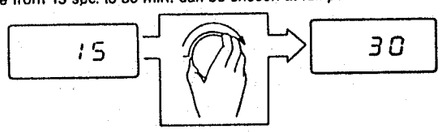
CLEAR → DESIRED POWER LEVEL → DESIRED COOKING TIME → START

FULL POWER(HIGH) COOKING

EXAMPLE: If you want to cook fresh fish on full power for 5 minutes 30 seconds.

STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".	CLEAR		Erase all previous setting except time of day.
2. Touch "High".	HIGH	0 00	The bar below time cook will blinks.
3. Rotate the Timer/Temp knob with it out (setting position) to set the desired cooking time. (5 minutes 30 seconds)	TIMER/TEMP	5 30 00	The cooking time will show in the display window.
4. Touch "Start".	START	5:30 00	The oven begins to cook and the display window will show the time counting down.

Note
1. To stir food during cooking, open the oven door; stir or turn the food. Close the oven door and touch Start. The oven will automatically continue to count down the amount of time left on the timer.
2. If you turn the Timer/Temp knob at full power cooking, the time going up by 15 second increments.
3. The cooking time from 15 sec. to 30 min. can be chosen at full power.

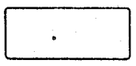
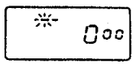
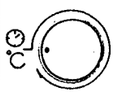
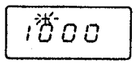
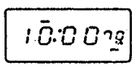


OPERATION SUMMARY

CLEAR → HIGH → DESIRED COOKING TIME → START

TIME DEFROST COOKING

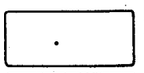
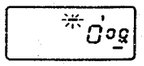
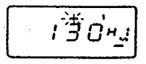
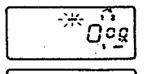
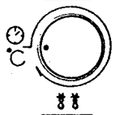
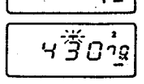
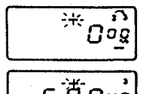
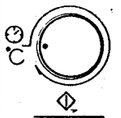
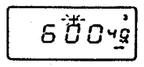
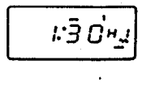
EXAMPLE: The microwave oven controls three different output powers automatically during defrosting time programmed by setting
Time Defrost functions you want to cook.

STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Measure the time of frozen food you want to cook and place it in the oven and close the door.			
2. Touch "Clear".			Erase all previous setting except time of day.
3. Touch "Time Defrost".			
4. Rotate the Timer/Temp knob with it out (setting position) to set the desired defrosting time. (10 minutes)			
5. Touch "Start".			The oven will begin to defrost and the display window will show the time counting down.

Note
This pad gives a pre-programmed combination of three power levels.
Power level "MEDIUM" (70%) for the first 15% of selected time.
Power level "DEFROST" (40%) for second 40% and power level "ZERO" (0%) for the remaining 45%.

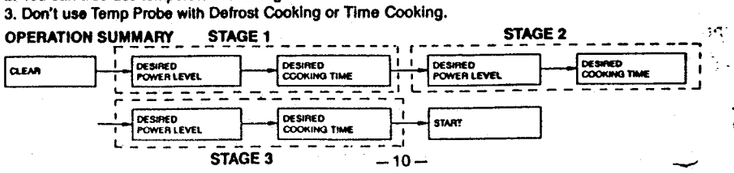
THREE-STAGE COOKING

This cooking allows you to set the oven to cook in one stage at a certain power level for a chosen time or temperature and then in a second and a third stage at a different power level for a chosen time or temperature.

STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".			Erase all previous setting except time of day.
2. Touch "High".			The bar below Time Cook will blink and the bar above power will light.
3. Rotate the Timer/Temp knob with it out (setting position) to set the cooking time. (1 minute 30 seconds)			"130H" will show in the display window.
4. Touch "Medium".			Push once for each change.
5. Step 5 is same as step 3 above. (4 minutes 30 seconds)			
6. Touch "Defrost".			
7. Step 7 is the same as step 3 avove. (6 minutes)			
8. Touch "Start".			The oven will begin cooking stage 1 and the display window will show the time counting down. When the first stage or the second stage is over, two short beep tones will sound. When the third stage is over, two short and one long tones will sound and the word "End" will show in the display window.

Note
1. If you want two-stage cooking, push the start button after step 5 is completed.
2. You can also use temperature cooking.
3. Don't use Temp Probe with Defrost Cooking or Time Cooking.

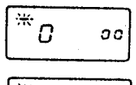
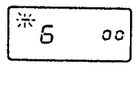
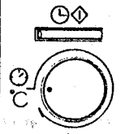
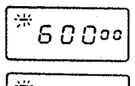
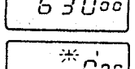
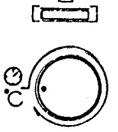
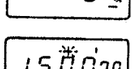
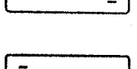
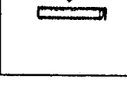
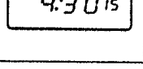
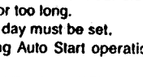
OPERATION SUMMARY



AUTO START COOKING

Auto Start cooking can be done by starting the cooking automatically and finishing at a preset Auto Start time, for the chosen cooking time.

EXAMPLE: If you want to start the cooking at 6:30 (Current time of day is 4:30)

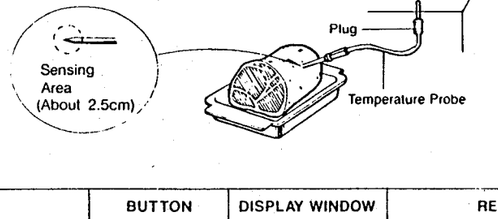
STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".			Erase all previous setting except time of day.
2. Touch "Auto Start".			The bar below Auto Start will blink.
3. Rotate the Timer/Temp knob with it out (setting position) to indicate correct hour. (6 hours)			The hour will be set.
4. Touch "Auto Start".			
5. Rotate the Timer/Temp knob to indicate corect minute. (30 minutes)			The minute will be set.
6. Touch button for desired power level.			The bar below Time Cook will blink.
7. Rotate the Timer/Temp knob with it out (setting position) to set the desired cooking time. (15 minutes)			
8. Touch "Start".			Time of day will show in the display window. As soon as the clock reaches the Auto Start time (6:30), the oven will start cooking.

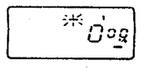
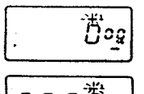
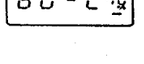
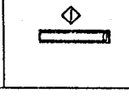
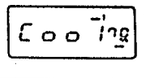
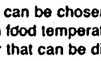
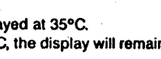
Note
1. A preset auto start time is less than 24 hours. The timer is a 24 hour clock. ("18:30" corresponds to 6:30 P.M)
2. Fresh food should not stand at room temperature for too long.
3. Before the Auto Start button is pushed, the time of day must be set.
4. When the door is opened and closed again during Auto Start operation, "Strt" is displayed in the display window to call Start button.
5. Auto Start cooking must always be used after Time of Day is set if Time of Day is not set and start the oven "Err" will be displayed.

OPERATION SUMMARY

TEMPERATURE COOKING ON FULL AND MULTI-POWER

1. Plug the temperature probe into the jack on the ceiling of the oven.
2. Place the temperature probe into the food with the 2.5cm of the sensor into the center of the food.
• The temperature probe is used to judge doneness when cooking or reheating food.



STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".			Erase all previous setting except time of day.
2. Touch the disired power level. (For example if the recipe should call for Medium (70%))			The bar below Time Cook will blink.
3. Touch "Temp".			The bar below Temp Cook will light.
4. Rotate the Timer/Temp knob with it out (setting position) to set the disired cooking temperature (60°C)			
5. Touch "Start".			The display will remain at "Cool" until the food is heated to above 35°C.

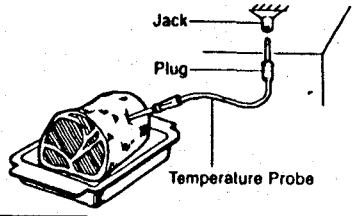
Note
1. Temperature from 35°C to 95°C can be chosen and set.
The display will show the rise in food temperature.
2. The lowest temperature number that can be displayed at 35°C.
Therefore, even though food may be less than 35°C, the display will remain at "Cool" until the food is heated to above 35°C.

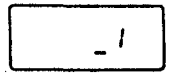
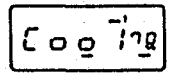
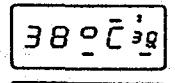
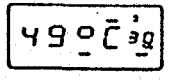
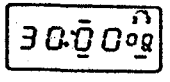
OPERATION SUMMARY

AUTO TEMP COOKING

Auto Temp Cooking allows you to cook conveniently because of the cooking time and power level recipe have preset according to the menu.

1. Plug the temperature probe into the jack on the ceiling of the ovan.
2. Place the temperature probe into the food with the 2.5cm of the sensor into the center of the food.



STEP	BUTTON	DISPLAY WINDOW	REMARKS
1. Touch "Clear".			Erase all previous setting except time of day.
2. Select a desired number by touching "Auto Temp".			Whenever you touch the Auto Temp button, the number in the display window changes from No. 1 to No. 7 gradually. Refer to Table 1. (page 14)
3. Touch "Start".			The display will remain at "Cool" until the food is heated to above 35°C.
When 1st cooking ends, Display window will show "PAUS", and two beep tones will sound.			
4. Touch "Start" once more.			
2nd stage cooking ends, two beep tones sound and 3rd stage cooking begins.			
When 3rd stage cooking ends, "End" appears in display window.			Hold Warm function is performed in stage 3 and the cooking time counts down in the display window.

1. The display window will show the temperature from 35°C to 38°C with going up 1° increments. When oven temperature reaches 38°C, two beeps will sound and "PAUS" will appear in the display window.
2. When the display window will show "PAUS", open the door and stir or turn the food. And then close the door and touch Start again.
3. Refer to Table 1 for detailed recipe corresponding to each number which appears in the display window whenever you touch the Auto Temp button.

OPERATION SUMMARY

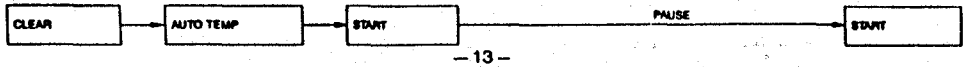


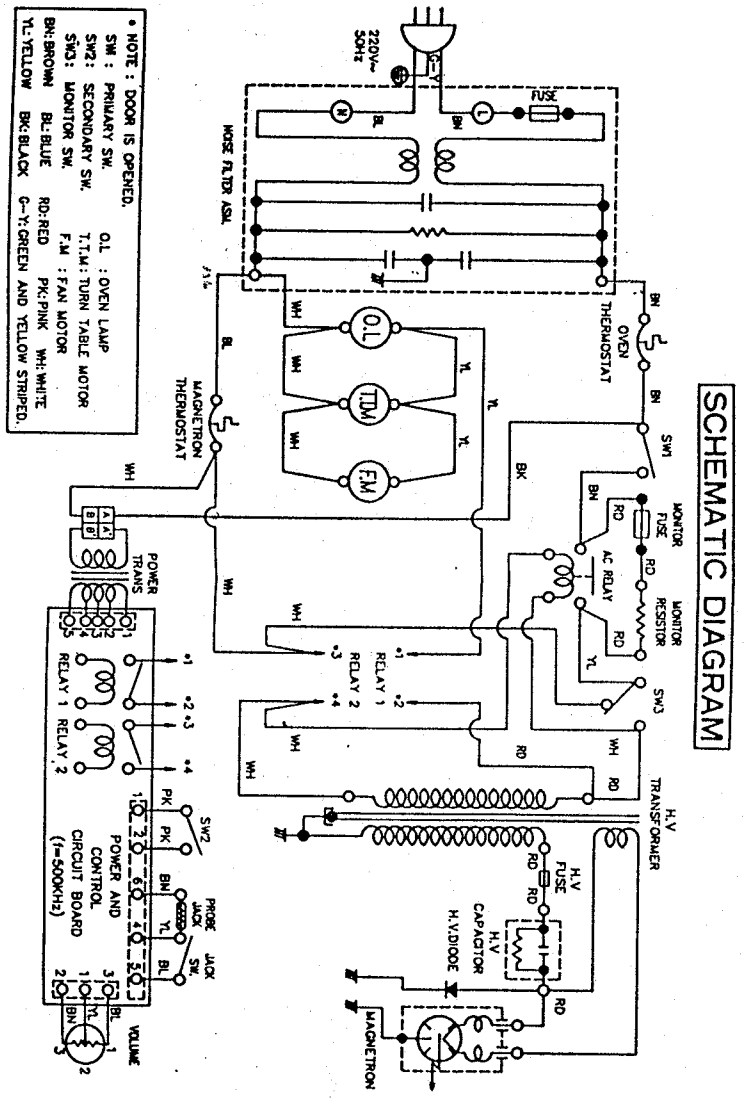
TABLE 1

COOKING TEMPERATURE AND POWER LEVEL OF EACH STAGE FOR MENUS

NO.	MENU	STAGE 1		PAUSE	STAGE 2		STAGE 3	
		Power Level	°C (°F)		Power Level	°C (°F)	Power Level	Time (Minute)
1	BEEF (RARE)	70%	38 (100)	When the display window will show "PAUS", open the door and stir and turn the food. And then close the door and touch Start again. If not needed, touch Start without these procedures.	30%	49 (120)	0%	30
2	BEEF (MEDIUM)	70%	38 (100)		30%	54 (130)	0%	30
3	BEEF (WELL DONE)	70%	38 (100)		70%	60 (140)	0%	30
4	HAM (FULLY COOKED)	30%	38 (100)		30%	49 (120)	0%	30
5	CHICKEN (WHOLE)	30%	38 (100)		30%	82 (180)	0%	30
6	PORK	30%	38 (100)		30%	74 (165)	0%	30
7	MEAT LOAF	30%	38 (100)		30%	68 (155)	0%	30

Note: Whenever you touch the Auto Temp button, the number in the display window changes from No. 1 to No. 7 gradually. Choose the desired number (desired recipe) for the best result.

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM

CIRCUIT DESCRIPTION

- The low voltage transformer supplies the necessary voltage to the micom controller when power cord is plugged in.
- As the door is opened the contact of MONITOR SWITCH is closed. This switch creates the short circuit to blow 6.3A fuse during operation under abnormal condition. (ie, should be contacts of primary switch and secondary switch fail to open the circuit)
- The door latches are secured by the latch board.

WHEN COOKING POWER LEVEL AND COOKING TIME ARE SET BY TOUCHING THE HIGH POWER BUTTON

- The micom controller memorizes the function you set.
- The time you set appears in the display window.
- Each function-indicator turns on to indicate that stage has been set.

WHEN TOUCHING THE START BUTTON

- The coil of the RELAY 2 is energized by micom controller.
- The RELAY 1 operates.
- 220 volts AC supplied to the high voltage transformer.
- FAN motor rotates and cools the magnetron by blowing the air (coming from inlet of the back plate) over the magnetron fins.
- This air is also directed into oven to exhaust the vapor.
- The oven light turns on.
- Function indicator starts displaying to indicate progressing function.
- Cooking time starts counting down.
- 3.2 Volts AC is generated from the filament winding of the high voltage transformer. This 3.2 volt is applied to the magnetron to heat magnetron filament through two noise suppression choke coils. A high voltage 2100 volts AC is generated in the secondary winding of the high voltage transformer and this secondary voltage is increased by action of the diode and charging of the high voltage capacitor. This resultant DC voltage is then applied to the magnetron via the filament.
- The disturbance wave generated by the magnetron is suppressed by the choke coils, raise filter assembly and the magnetron shielded case, so that TV and RADIO programs are not impaired by noise.

WHEN THE OVEN IS SET ANY POWER EXCEPT MAX POWER LEVEL

- Micom controller controls the ON-OFF time of the RELAY 2 by the applied gate signal to vary the average output power of microwave oven from "POWER LOW" to "POWER HIGH".
- One complete cycle of REALY 2 is 22 seconds.

POWER CHART

INDICATION	OUTPUT POWER AGAINST HIGH POWER	ON-OFF TIME OF RELAY
	22/22 (100%)	ON 0(S) 22(S)
	16/22 (70%)	0(S) 16(S) 22(S)
	10/22 (40%)	ON OFF 0(S) 10(S) 22(S)
	6/22 (20%)	ON OFF 0(S) 6(S) 22(S)

Fig. 5

WHEN THE DOOR IS OPENED DURING COOKING

- Both primary switch and relay open to cut off primary winding voltage to the high voltage transformer.
- ON-OFF time of relay is coupled electrically with opening and closing of secondary switch.
- When the door is opened, secondary switch is closed and when the door is closed, secondary switch is opened.
- Function indicator stops displaying and display stops counting down.
- Relay stops functioning.
- As the door is opened, if the contact of primary switch and secondary fails to open, the amp fuse blows by the large current surge caused by the monitor switch activation and in turn this stops magnetron oscillation. **(Fig. 6)**

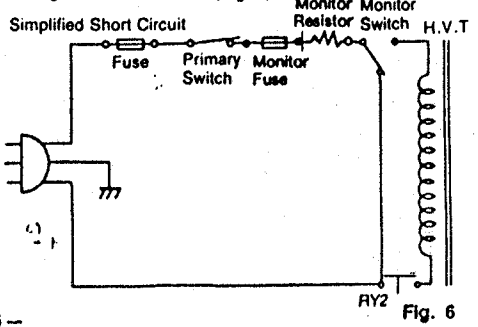


Fig. 6

MAGNETRON TUBE

- The magnetron tube is the heart of the microwave oven. It is basically a diode with the addition of a magnetic field. The magnetron tube assembly consists of cylindrical cathode (negative) terminal, enclosed within a cylindrical anode (positive) terminal, evacuated of all air, and surrounded by a permanent magnet.
- In order to create an electron flow from cathode to anode, the cathode must be heated and a potential difference must exist between the two. This is accomplished by heating the cathode with 3.15 VAC (from the filament winding of the high voltage transformer), and applying a negative 4000 VDC (from the voltage doubler circuit) to the cathode.
- Originally, the electrons would travel in a straight line from the cathode to the anode (See Fig. 7). However, with the addition of a permanent magnet surrounding the anode creating a magnetic field, the electrons travel an orbital path between the cathode and anode (See Fig. 8). As the electrons approach the anode, their orbital path takes them past small resonant cavities that are part of the anode. The passing notion of the electrons induces electron current to oscillate in the resonant cavities at the very high frequency or 2,450 megahertz. This RF energy is then transferred to the antenna.

TESTING MAGNETRON TUBE

- Disconnect power, remove the wrapper, and discharge the capacitor.
- Remove the two leads from the magnetron terminals.
- Connect the ohmmeter between one terminal of the magnetron and the outer case of the magnetron. If the ohmmeter reads infinity, go to below. If the ohmmeter reads less than infinity, the magnetron is shorted.
- Connect an ohmmeter across the terminals of the magnetron. The ohmmeter should read less than one ohm. If the ohmmeter reads over one ohm or infinity, the tube is defective.

MAGNETRON WITHOUT MAGNETIC FIELD

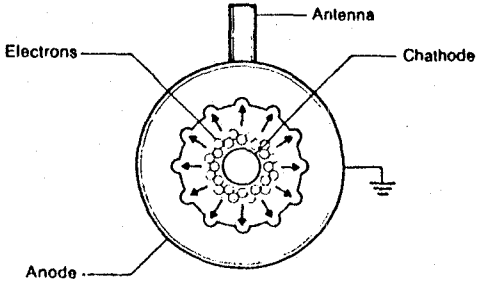


Fig. 7

MAGNETRON WITH MAGNETIC FIELD

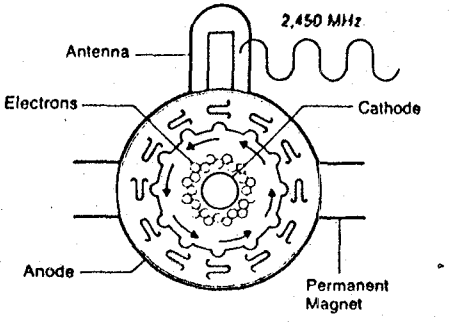


Fig. 8

INTERLOCK SYSTEM

WARNING: FOR CONTINUED PROTECTION AGAINST RADIATION HAZARD, REPLACE ONLY WITH IDENTICAL REPLACEMENT PARTS.

PART NO. 3B73362G (VP-533C-OF) OR 3B70374C (V-5130R) FOR PRIMARY SWITCH
PART NO. 3B73360E (VP-531C-OF) OR 3B70374A (V-5110R) FOR MONITOR SWITCH
PART NO. 3B73362B (F831618) OR 3B73362C (VP-333A-OF) FOR SECONDARY SWITCH

- **INTERLOCK MECHANISM**

The door lock mechanism is a device which has been specially designed to completely eliminate microwave when the door is opened during cooking and thus to perfectly prevent the danger resulting from the leakage of microwave.

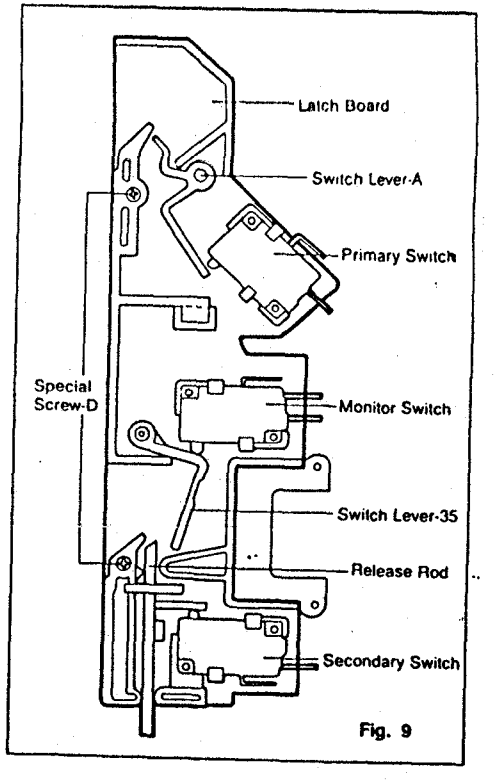


Fig. 9

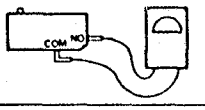
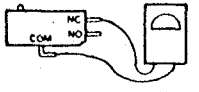
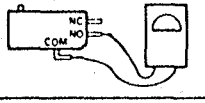
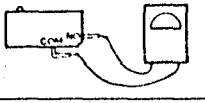
INSTALLATION AND ADJUSTMENT OF THE LATCH BOARD ASM TO THE OVEN ASSEMBLY

- Mount the latch board to the oven assembly.
- Adjust the latch board arrow direction so that oven door will not have any play in it where closed.
- Tighten the mounting screw.
- Check for play in the door by pushing the door release button. Door movement play should be less than 0.5 mm (1/64").
- Do not push the door release button while making adjustment:

  Make sure that the latch moves smoothly
  adjustment is completed and that screws are
- After the adjustment, make sure by the continu
  test procedure that the primary switch operates
  properly.

INTERLOCK CONTINUITY TEST

- The service personnel should replace all of the monitored safety interlock switches and monitor switch if the oven has been rendered inoperative due to the failure of the monitored safety interlock(s).
- Be sure to connect the monitor switch after replacement and to check interlock/monitor continuity.

COMPONENTS	TEST PROCEDURE		RESULTS	
SWITCHES (Wire leads removed.)	Check for continuity of the switch with an Ohm-meter		Door open	Door close
	Primary Switch			
	Monitor Switch			
				
	Secondary Switch			
	NOTE: After checking for the continuity of switches, make sure that they are correctly connected.			

PRIMARY INTERLOCK (UPPER LATCH) SWITCH TEST

When the door button is slowly depressed with the door closed, an audible "click" should be heard at the same time or successively at intervals. When the button is slowly released, the latches should activate the switches with an audible "click".

If the latches do not activate the switches when the door is closed, the switches should be adjusted in accordance with adjustment procedure.

Isolate the primary switch by disconnecting it from leadwire. Connect the ohmmeter leads to the common (COM) and normally open (NO) terminal of the switch. The meter should indicate an open circuit in door open condition.

When the door is closed, the meter should indicate a closed circuit.

When the primary switch operation is abnormal, make the necessary adjustment or replace the switch only with the same type of switch.

SECONDARY INTERLOCK (LOWER LATCH) SWITCH TEST

Isolate the secondary switch by disconnecting it from leadwire. Connect the ohmmeter leads to the common (COM) and normally open (NO) terminals of the switch. The meter should indicate an open circuit in the door open condition. When door is closed, the meter should indicate a closed circuit. When the secondary switch operation is abnormal, make the necessary adjustment or replace the switch only with the same type of switch.

MONITOR SWITCH TEST

Isolate the monitor switch by disconnecting it from leadwire. Connect the ohmmeter leads to the common (COM) and normally closed (NC) terminals of the switch. The meter should indicate closed circuit in the door open condition. When door is closed, the meter should indicate an open circuit.

When the monitor switch operation is abnormal, replace the same type of switch.

NOTE: After repairing the door or the interlock system, it is necessary to do this continuity test before operating the oven.

NECESSARY TOOLS AND MEASURING INSTRUMENTS

NECESSARY TOOLS

Tools normally used for TV servicing are sufficient. Standard tools are listed below.

- Diagonal pliers
- Long nose pliers
- Cross head screwdriver
- Socket wrench (size 5 mm)
- Nutdriver (size 5 mm)
- Adjustable wrench
- Soldering iron
- Solder
- Vinyl insulation tape
- Polishing cloth

NECESSARY MEASURING INSTRUMENTS

- Tester (Volt DC, AC-ohmmeter)
- Inch scale
- Electromagnetic radiation monitor
- 600 cc glass beaker or equivalent
- Glass thermometer 100°C
- One glass vessel

REPLACEMENT PROCEDURE

A. REMOVING THE OUTER CASE (Fig. 10)

(1) Remove five screws from the side section.
(2) Remove six screws from the rear section.

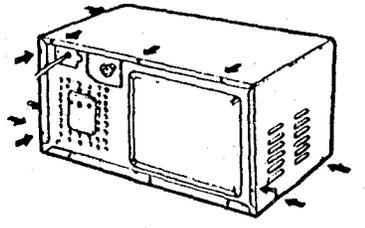


Fig. 10

B. REMOVING THE FAN MOTOR AND MGT BRACKET ASSEMBLY (Fig. 11)

(1) Disconnect the wire leads from the fan motor terminal.
(2) Remove the power cord assembly from the back plate by the following. Separate the power cord connector from the leadwire asm connector. Disconnect the wire leads from the noise filter asm. Disconnect the main earth wire by loosening the screw securing the back plate.
(3) Separate the noise filter asm from the MGT bracket guide by removing the screw.
(4) Remove two screws securing the suction guide asm to the rear section.
(5) Separate the MGT bracket and lamp bracket by removing three screws.
(6) Remove two screws securing the fan motor to the suction guide.
(7) Separate the propeller.
(8) Remove two screws securing the fan motor to the suction guide.

NOTE: Reverse the above steps for reassemblage.

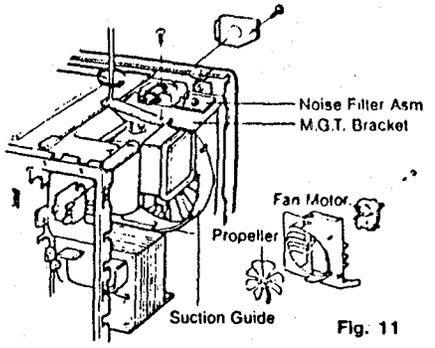


Fig. 11

C. REMOVING CONTROL PANEL (Fig. 12)

(1) Disconnect the wire leads (from relay 1 and realy 2) and I/O connector.
(2) Remove two screws securing the control panel to the front plate.
(3) Remove the control panel.

NOTE:
Remove the wire leads from the relay 1, relay 2 and I/O connector VERY CAREFULLY. Be sure to grasp the connector, and not the wire.

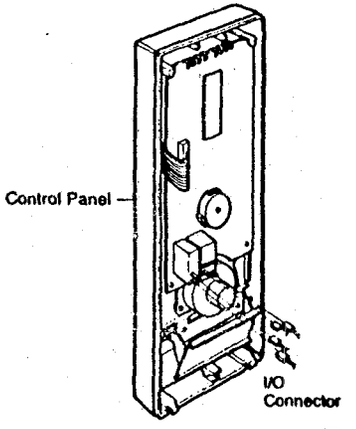


Fig. 12

D. REMOVING PCB ASSEMBLY AND CONTROL BRACKET (Fig. 13)

(1) Disconnect the wire lead from URI connector.
(2) Remove two screws securing the PCB assembly from the control panel.
(3) Remove two screws securing the time/temp knob assembly from the control bracket.
(4) Remove five screws securing the control bracket from the control panel.
(5) Remove the pin from the control bracket.
(6) Remove the door button.
(7) Remove the digitron window.

NOTES
1. Reverse the above steps for reassembly.
2. Do not touch any part of the circuit on the control circuit on the control circuit board since static electric discharge may damage the control unit. Always touch yourself to ground while working on this circuit to discharge and static charge accmulated in your body.

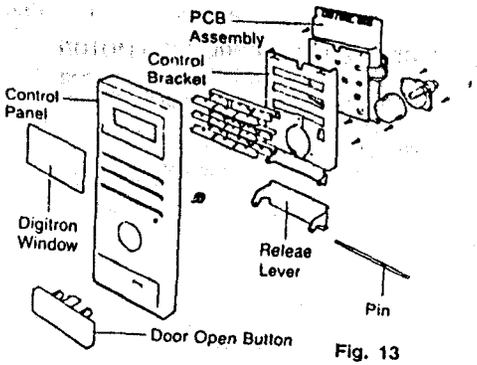


Fig. 13

CAUTION
WHEN REMOVING THE HIGH VOLTAGE TRANSFORMER, DIODE, CAPACITOR AND MAGNETRON, ALWAYS DISCHARGE THE HIGH VOLTAGE CAPACITOR.

E. REMOVING THE HIGH VOLTAGE TRANSFORMER (Fig. 14)

(1) Disconnect the wire leads from H.V. transformer to the magnetron and H.V. capacitor.
(2) Remove two screws securing the H.V. transformer to the base plate.
(3) Tilt the top of the H.V. transformer forward and lift it up.

NOTES
1. Remove the wire leads from the H.V. transformer VERY CAREFULLY.
2. When removing the wire leads from the parts, be sure to grasp the connector, and not the wires.

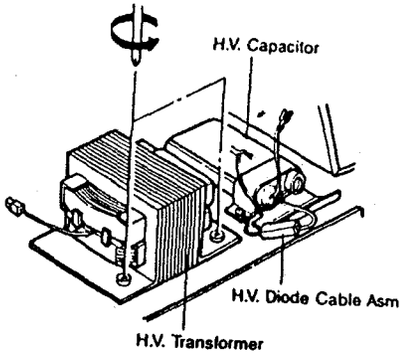


Fig. 14

F. REMOVING THE HIGH VOLTAGE DIODE CABLE ASM AND HIGH VOLTAGE CAPACITOR

(1) Discharge the High Voltage capacitor.
(2) Disconnect the wire leads from the H.V. capacitor.
(3) Remove the fan motor and suction guide. (See Fig. 11)
(4) Remove one screw securing the H.V. capacitor and diode to the base plate.

NOTES

1. Remove the connector from the H.V. capacitor VERY CAREFULLY with long nose pliers.
2. When removing the connector from the H.V. capacitor, be sure to grasp the connector, and not the wires.
3. Remove the diode from the H.V. capacitor VERY CAREFULLY with long nose pliers.

G. REMOVING MAGNETRON

(1) Disconnect the wire leads from the magnetron.
(2) Remove the screws (E,) to detach the Duct-L from the unit. (Fig. 17)
(3) Remove four screws (A, B, C and D) securing the magnetron to the unit.

NOTES

1. When removing the magnetron, make sure its dome does not hit any adjacent parts, or it may be damaged. (Fig. 18)
2. When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition. (Fig. 18)

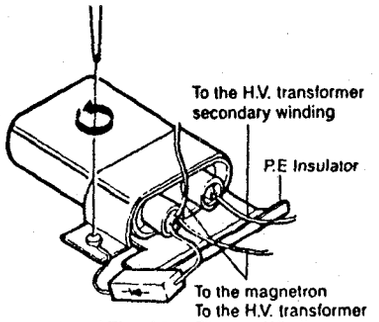


Fig. 15

CAUTION: CHECK THE CORRECT POSITION

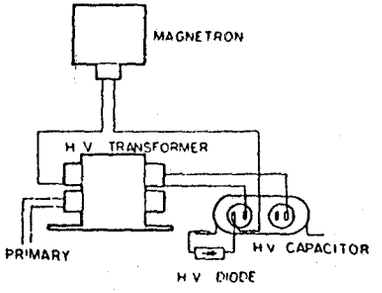


Fig. 16

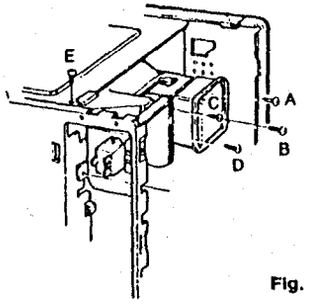


Fig. 17

3. After replacing the magnetron, check on microwave energy leakage with a survey meter around the magnetron.
Microwave energy must be below the limit of 5 mW/cm². (With a 275 ml water load)
— See page 26. (MEASUREMENT WITH THE OUTER CASE REMOVED)

H. REMOVING DOOR (Fig. 19)

(1) Remove two screws securing the hinge plate-u.
(2) To remove the door, tilt the top of the door forward and lift up.

NOTES

1. After replacing the door, be sure to check that the primary switch, monitor switch and secondary switch operate normally.
2. After replacing the door, check for microwave energy leakage with a survey meter.
Microwave energy must be below the limit of 2mW/cm². (with a 275 ml water load)

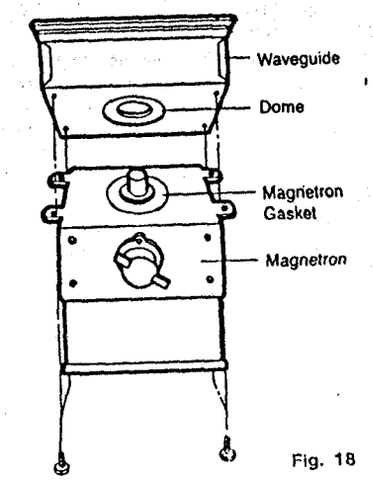


Fig. 18

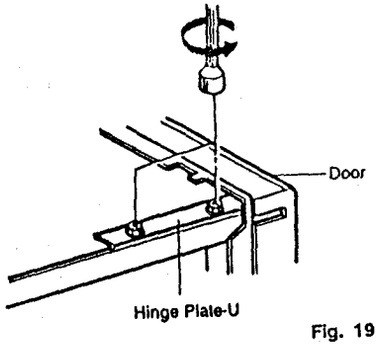


Fig. 19

I. REMOVING SYNCHRONOUS MOTOR

(1) Remove the turntable and rotating ring.
(2) Remove the turntable shaft VERY CAREFULLY with a slotted screwdriver. (Fig. 21)
(3) Upset the unit.
(4) Remove one screw to detach the base cover from the baseplate.
(5) Remove the wire leads from the synchronous motor CAREFULLY with long nose pliers.
(6) Remove two screws securing the synchronous motor to the lower plate. (Fig. 22)

NOTES

1. Remove the wire lead from the synchronous motor VERY CAREFULLY WITH long nose pliers.
2. Be sure to grasp the connector, and not the wires when removing the wires.

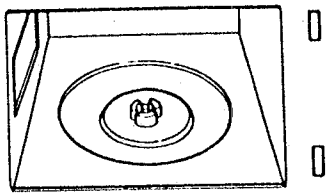


Fig. 20

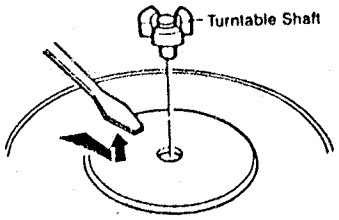


Fig. 21

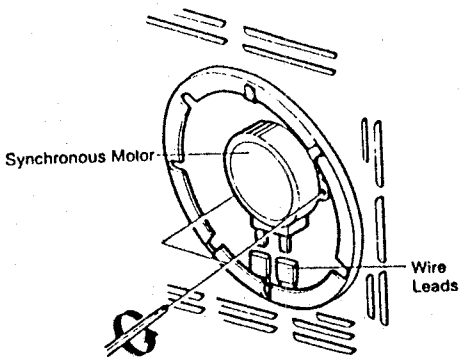


Fig. 22

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1. No program input.	Check the connection between membrane key	Connected.	Defective PCB assembly.	Replace PCB assembly.

CAUTION: Follow the procedures below to check the control circuit.
1. Check grounding before checking for other trouble.
2. Be careful of the high voltage circuit.

PROCEDURE FOR MEASURING MICROWAVE ENERGY LEAKAGE

CAUTIONS

- Be sure to check a microwave emission prior to servicing the oven if the oven is operative prior to servicing.
- The service personnel should inform the manufacturer, importer, or assembler of any certified oven unit found to have a microwave emission level in excess of 5 mW/cm² and should repair any unit found to have excessive emission levels to the owner and should ascertain the cause of the excessive leakage. The service parsonnel should instruct the owner not to use the unit until the oven has been brought into compliance.
- If the oven operates with the door open, the service personnel should;
  — Tell the user not to operate the oven
- The service personnel should check all surface and vent openings for microwave emission testing.
- Check for microwave energy leakage after every servicing. The power density of the microwave radiation leakage emitted by the microwave oven should not exceed 2 mW/cm.sq. And always start measuring of an unknown field to assure safety for operating personnel from radiation leakage.

  NOTE: The standard is 5 mW/cm.sq. while in the customer's home. 2 mW/cm.sq. stated here is manufacturer's own voluntary standard for units in customer's home.

EQUIPMENT

- Electromagnetic energy leakage monitor (NARDA 8100B, HOLADAY HI1501)
- 600 cc glass beaker
- Glass thermometer 100°C or 212°F

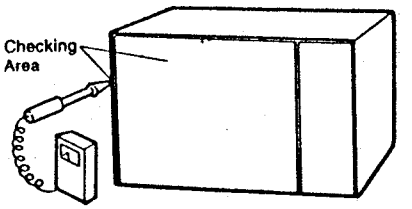


Fig. 23

MEASURING MICROWAVE ENERGY LEAKAGE

- Pour 275 ± 15cc of 20 ± 5°C water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
- Set the energy leakage monitor to 2,450 MHz and use it following the manufacturer's recommended test procedure to assure correct result.
- When measuring the leakage, always use the 2 inch (5 cm) spacer supplied with the probe.
- Operate the oven at its maximum output.
- Measure the microwave radiation using and electromagnetic radiation monitor by holding the probe perpendicular to the surface being measured. (See Fig. 24)

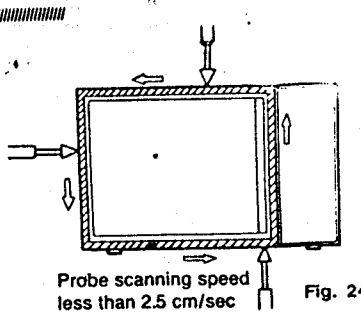


Fig. 24

MEASUREMENT WITH THE OUTER CASE REMOVED

- When you replace the magnetron, measure for microwave energy leakage before the outer case is installed and after all necessary components are replaced or adjusted.
  Special care should be taken in measuring the following parts.
  — Around the magnetron
  — The waveguide

WARNING: AVOID CONTACTING ANY HIGH VOLTAGE PARTS

MEASUREMENT WITH A FULLY ASSEMBLED OVEN

- After all components, including the outer panels, are fully assembled, measure for microwave energy leakage around the door viewing window, the exhaust opening and air inlet openings.
- Microwave energy leakage must not exceed the values prescribed below.

NOTES:

Leakage with the outer panels removed — less than 5 mW/cm.sq.

Leakage for a fully assembled oven ("Before the latch switch (primary) is interrupted") with the door in a slightly opened position — less than 2 mW/cm.sq.

NOTE WHEN MEASURING

- Do not exceed meter full scale deflection.
- The test probe must be removed no faster than 1 inch/sec (2.5 cm/sec) along the shaded area, otherwise a false reading may result.
- The test probe must be held with the grip portion of the handle.
  A false reading may result if the operator's hand is between the handle and the probe.
- When testing near a corner of the door, keep the probe perpendicular to the surface making sure the probe horizontally along the oven surface, this may possibly cause probe damage.

RECORD KEEPING AND NOTIFICATION AFTER MEASUREMENT

- After adjustment and repair of any microwave energy interruption or microwave energy blocking device, record the measured values for future reference. Also enter the information on the service invoice.
- Should the microwave energy leakage not be more than 2 mW/cm.sq. after determining that all parts are in good condition, functioning properly and genuine replacement parts which are listed in this manual have been used.
- At least once a year, have the electromagnetic energy leakage monitor checked for calibration by its manufacturer.

DETERMINATION OF MEASUREMENT OF MICROWAVE POWER OUTPUT

- Microwave power output measurement is made with the microwave oven supplied at its rated voltage and operated at its maximum microwave power setting with a load of (1000 ± 5)g of potable water.
- The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
- The oven and the empty vessel are at ambient temperature prior to the start of the test.
- The initial temperature of the water is (10 ± 2)°C. It is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the centre of the shelf which is in the lowest position and the microwave power switched on.
- The time T for the temperature of the water to rise by a value ΔT of (10 ± 2)K is measured, where T is the time in seconds and ΔT is the temperature rise. The initial and final water temperatures are selected so that the maximum difference between the final water temperature and the ambient temperature is 5 K.
- The microwave power output P in watts is calculated from the following formula:

$$P = \frac{4187\ (\Delta T)}{T1}$$

is measured while the microwave generator is operating at full power. Magnetron filament heat-up time is not included.

- The water is stirred to equalize temperature throughout the vessel, prior to measuring the final water temperature.
- Stirring devices and measuring instruments are selected in order to minimize addition or removal of heat.

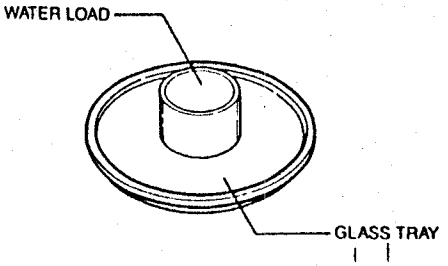


Fig. 25

TROUBLESHOOTING GUIDE

When you get a complaint from your customer, evaluate the complaint carefully before going to the customer's home. If the following symptoms apply, please instruct the customer in the proper use of the microwave oven. This can eliminate an unnecessary service call.

CONDITION	CAUSE	REMEDY
Microwave oven does not work.	Inserting many plugs into one plug receptacle and using them at the same time cause overloading.	Avoid using other electrical appliances when you use the microwave oven.
	Microwave oven plug is not inserted tightly.	Insert microwave oven plug securely.
Output power is too low.	Low AC input voltage.	Use the microwave oven at adequate line voltage.
	Food temperature is too low.	This may not be a defect. It is possible that the food should be cooked for a longer time period.
Sparks occurring.	Using metallic ware and allowing it to touch the oven wall.	Do not use metallic ware for cooking *except where noted* in the cook book.
	Ceramic ware trimmed in gold or silver powder is used.	Do not use any type of cookware with metallic trimming.
Uneven cooking.	Inconsistent intensity of microwave characteristics.	1. Wrap the thinner part with aluminum foil. 2. Use plastic wrap or a lid. 3. Stir once or twice while cooking soup, cocoa or milk, etc.
	Table not turning during cooking cycle.	Food or cookware extending over edges of turntable prevents turning. Rearrange food.
Turntable drags or makes noise.	Excessive weight on tray or improperly balanced.	Distribute food evenly. Cook smaller portions and/or use lighter weight cookware.

CAUTION: Follow the procedures below to check the control circuit.

1. Check grounding before checking for other trouble.
2. Be careful of the high voltage circuit.
3. When checking the continuity of the switches or transformer, disconnect one lead wire from these parts and then check continuity without turning the power on.
4. Do not touch any part of the circuitry on the control circuit board, since static electric discharge may damage the control circuit.
   Always touch yourself to ground while working on this circuit to discharge any static charge accumulated in your body.
5. Operate the microwave oven with the correct procedure.

(TROUBLE 1) The following visual conditions indicate a probable defective control circuit.

1. Incomplete segments.
   - Segment missing.
   - Partial segment missing.
   - Digit flickering. (NOTE: Slight flickering is normal.)
2. Colon does not turn on or blink.
3. A distinct change in the brightness of one or more numbers in the display.
4. One or more digits in the display not lighting.
5. Display indicates a number different from one touched, for example, key in 5 and 3 appears in the display
6. Specific numbers (for example 7 or 9) will not display when key pad is touched.
7. Display does not count down or up with time blinking.
8. Display time skips while counting down.
9. Display counts down too fast while cooking.
10. Display does not shift from first stage cooking to the second stage cooking program.
11. Each indicator light does not turn on after setting cooking cycle time.
12. Display time of day does not reappear when cooking is finished.
13. Bleep sound is not heard when the correct key is touched.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1. No program input.	Check the connection between membrane key assembly and PCB assembly.	Connected.	Defective PCB assembly.	Replace PCB assembly.
		Not connected.	Loose connection.	Connect them tightly.
2. Some inputs not programmed.	Replace key membrane assembly and check operation.	Operates.	Defective key membrane assembly.	Replace key membrane assembly.
3. Display shows a number or figure different from one touched.		Malfunction.	Defective PCB assembly.	Replace PCB assembly.
4. Erratic programming when touching other pads.				
5. Display fixed some figure and can not accept any input.				

(TROUBLE 2) Oven does not operate; Display window does not display any figures and no input is accepted.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1. T6.3A fuse blows.	Check A.C. relay.	Abnormal.	A.C. relay malfunction.	Replace the A.C. relay
		Normal.		
	Measure the resistance of the primary coil of the micom power trans.	Approximately 0 Ω.	Micom power trans coil short.	Replace the Power Trans Assembly.
		Approximately 1 KΩ.		
	Check continuity of primary switch with door opened. (See page 19)	Continuity.	Primary switch shorted contact.	Replace the primary switch.
		No continuity.		
	Check continuity of monitor switch with door closed. (See page 19)	Abnormal.	Monitor switch malfunction.	Replace the monitor switch.
		Normal		

to page 31

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Disconnect one side of the wire lead connected from the transformer to the high voltage capacitor and operate the unit.		Normal.	Defective high voltage transformer.	Replace high voltage transformer.
		T6.3A fuse blows again.	Defective high voltage capacitor.	Replace high voltage capacitor.

NOTE: All these switches must be replaced at the same time. Refer to page 19 for adjustment procedure.

2. T6.3A Fuse blow.	Check continuity of primary switch.	Abnormal.	Defective primary switch.	Replace primary switch and check interlock system.
	Check continuity of monitor switch.	Abnormal.	Defective monitor switch.	Replace monitor switch and check interlock system.

(TROUBLE 3) Display shows all figures set, but oven does not start cooking through program times and START pad are touched.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1. Time does not count-down when touching START pad.	Check continuity of secondary switch with door closed. (See page 20)	No continuity.	Defective secondary switch.	Replace secondary switch.
		Continuity.		
	Check the connection between I/O connector and PCB assembly.	Connected.	Defective PCB assembly.	Replace PCB assembly.
		Not connected.	Loose connection.	Connect them tightly.
2. Fan motor or oven lamp and synchronous motor do not function.	Check continuity of relay 1. After removing wire leads from relay 1, operate the unit.	No continuity.	Defective PCB assembly.	Replace PCB assembly.
		Continuity.		
	Check fan motor.	Abnormal.	Defective fan motor.	Replace fan motor.
	Check connector (Leadwire ASM-A to ASM-B)	Connected.	Defective oven lamp and synchronous motor.	Replace oven lamp and synchronous motor.
		Not connected.	Loose connection.	Connect them tightly.

(TROUBLE 4) No microwave oscillation even though oven lamp, fan motor and synchronous motor operate. (Display operates properly.)

CONDITION	CHECK	RESULT	CAUSE	REMEDY
No microwave oscillation.	Check continuity of relay 2. (Remove wire leads from relay 2 and operate the unit.)	Abnormal.	Defective PCB assembly.	Replace PCB assembly.
		Normal.		
	Check monitor resistor and monitor fuse.	Abnormal. (open)	Defective Mon. resistor or Mon. fuse.	Replace Mon. resistor or Mon. fuse.
		Normal. (short)		
	Check A.C. relay.	Abnormal.	Defective A.C. relay.	Replace A.C. relay.
		Normal.		
	Check Monitor switch.	Abnormal.	Defective monitor switch.	Replace monitor switch.
		Normal.		
	Check high voltage transformer.	Abnormal.	Defective high voltage transformer.	Replace high voltage transformer.
		Normal.		
	Check high voltage capacitor.	Capacitor open.	Defective high voltage capacitor.	Replace high voltage capacitor.
		Normal.		
	Check high voltage diode.	Abnormal.	Defective high voltage diode.	Replace high voltage diode.
		Normal.		
	Check magnetron.	Abnormal.	Defective magnetron.	Replace magnetron.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Output is full when lower power level is set.	Disconnect the wire leads from relay 2 and check relay 2 continuity. (Operate the unit.)	Abnormal.	Defective PCB assembly.	Replace PCB assembly.

(TROUBLE 6) Oven seems to be operating but little heat is produced in oven.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Output is low.	Check the power source voltage.	Lower than 198V.	Decrease in power source voltage with a load.	Contact local electric power utility co. or qualified electrician.
		Normal		
	Disconnect the wire leads from relay 2 and check on and off time with multi-tester.	Abnormal.	Defective PCB assembly	Replace PCB assembly.
		Normal.		
	Measure the output power	Less than 630W	Defective magnetron.	Replace magnetron.

NOTE: • MAKE SURE THE WIRE LEADS ARE IN THE CORRECT POSITION.
• WHEN REMOVING THE MAGNETRON, BE SURE TO INSTALL THE MAGNETRON GASKET IN THE CORRECT POSITION AND IN GOOD CONDITION.

CAUTIONS
1. DISCONNECT THE POWER SUPPLY CORD FROM THE WALL OUTLET WHENEVER REMOVING THE OUTER CASE FROM THE UNIT. PROCEED WITH THE TEST ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE WIRE LEADS FROM THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMER. (SEE FIG. 26)
2. ALL OPERATIONAL CHECKS WITH MICROWAVE ENERGY MUST BE DONE WITH A LOAD (1 LITER OF WATER IN CONTAINER) IN THE OVEN.

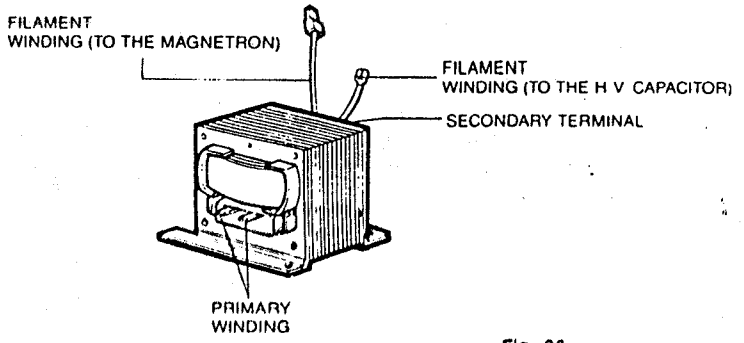
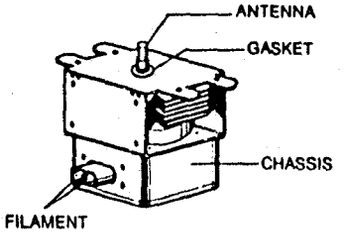
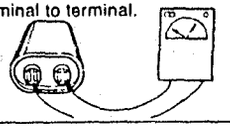
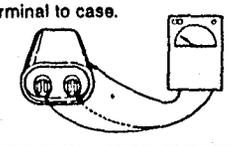
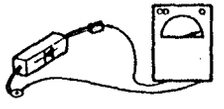
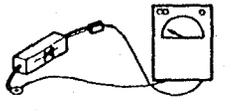
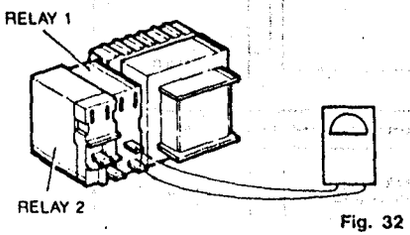
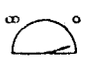
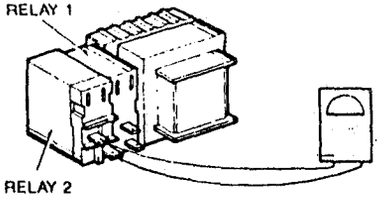


Fig. 26

• **TEST PROCEDURE**

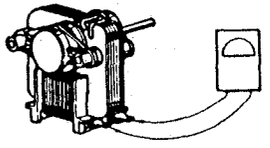
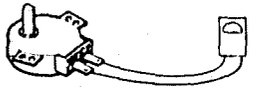
COMPONENTS	TEST PROCEDURE	RESULTS
HIGH VOLTAGE TRANSFORMER (Wire leads removed)	See Fig. 26 1. Measure the resistance. (Ohm-meter scale: R×1) • Primary winding • Secondary winding • Filament winding 2. Measure the resistance. (Ohm-meter scale: R×1000) • Primary winding to ground • Filament winding to ground	 Approx: 1.9 – 2.0 ohm Approx: 120 – 122 ohm Less than: 0.01 ohm Normal: Infinite Normal: Infinite
MAGNETRON (Wire leads removed)	See Fig. 27 1. Measure the resistance. (Ohm-meter scale: R×1) • Filament terminal 2. Measure the resistance. (Ohm-meter scale: R×1000) • Filament to chassis.	 Normal: Less than 1 ohm Normal: Infinite ohm

COMPONENTS	TEST PROCEDURE	RESULTS
	 Fig. 27 **NOTE** When testing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.	
HIGH VOLTAGE CAPACITOR	Measure the resistance. (Ohm-meter scale: R×1000) • Terminal to terminal.  Fig. 28	Normal: Momentary indicates several ohms, and then gradually returns to infinite.
	Measure the resistance. (Ohm-meter scale: R×1000) • Terminal to case.  Fig. 29	Normal: Infinite
HIGH VOLTAGE DIODE	Measure the continuity (Forward) (Ohm-meter scale: R×1000)  Fig. 30	Normal: Continuity Abnormal: Infinite
NOTE: Some inexpensive meters may indicate infinite resistance in both directions.	Measure the continuity (Reverse) (Ohm-meter scale: R×1000)  Fig. 31	Normal: Infinite Abnormal: Continuity.

COMPONENTS	TEST PROCEDURE	RESULTS
RELAY 1	Check for continuity of the relay 1 with an ohm-meter. (Remove wire leads from relay 1 and operate the unit.)  Fig. 32	STAND-BY CONDITION: START CONDITION: 
RELAY 2	Check for continuity of relay 2 with an ohm-meter. (Remove wire leads from relay 2 and operate the unit.)  Fig. 33	POWER LEVEL / / 20% — 6 sec — 16 sec 40% — 10 sec — 12 sec 70% — 16 sec. — 6 sec 100% — 22 sec — 0

NOTE: • A MICROWAVE ENERGY TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.
• MAKE SURE THE WIRE LEADS ARE IN THE CORRECT POSITION.
• WHEN REMOVING THE WIRE LEADS FROM THE PARTS, BE SURE TO GRASP THE CONNECTOR, NOT THE WIRES.

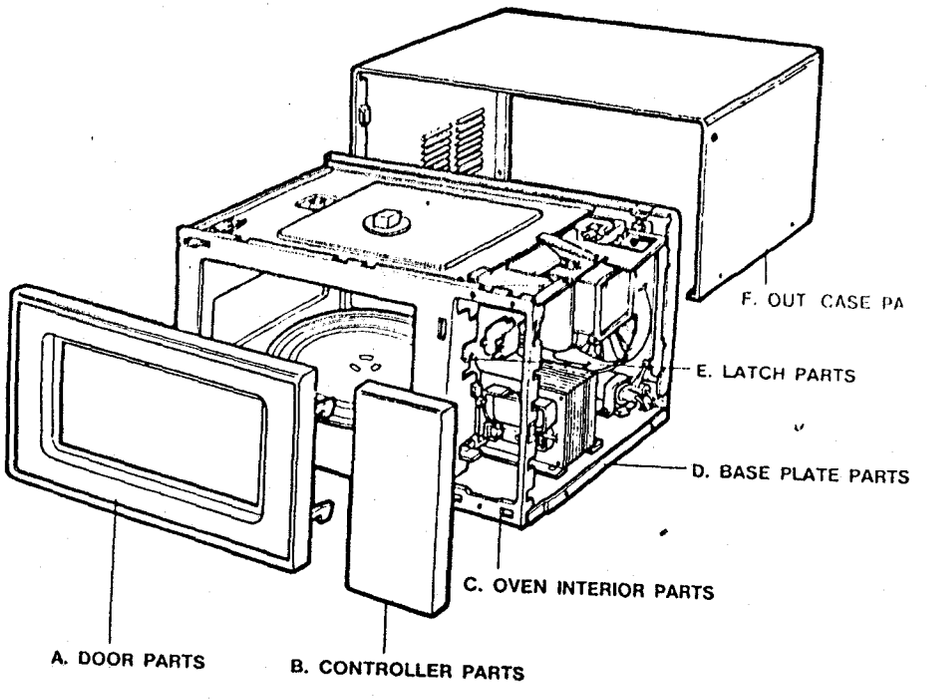
COMPONENT TEST PROCEDURE

COMPONENTS	TEST PROCEDURE	RESULTS
FAN MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R×1)  Fig. 34	Normal: Approx. 112 ohm. Abnormal: Infinite or several ohms.
TURNTABLE MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R×1000)  Fig. 35	Normal: Approx. 2.7 ohm. Abonrmal: Infinite or several ohm.

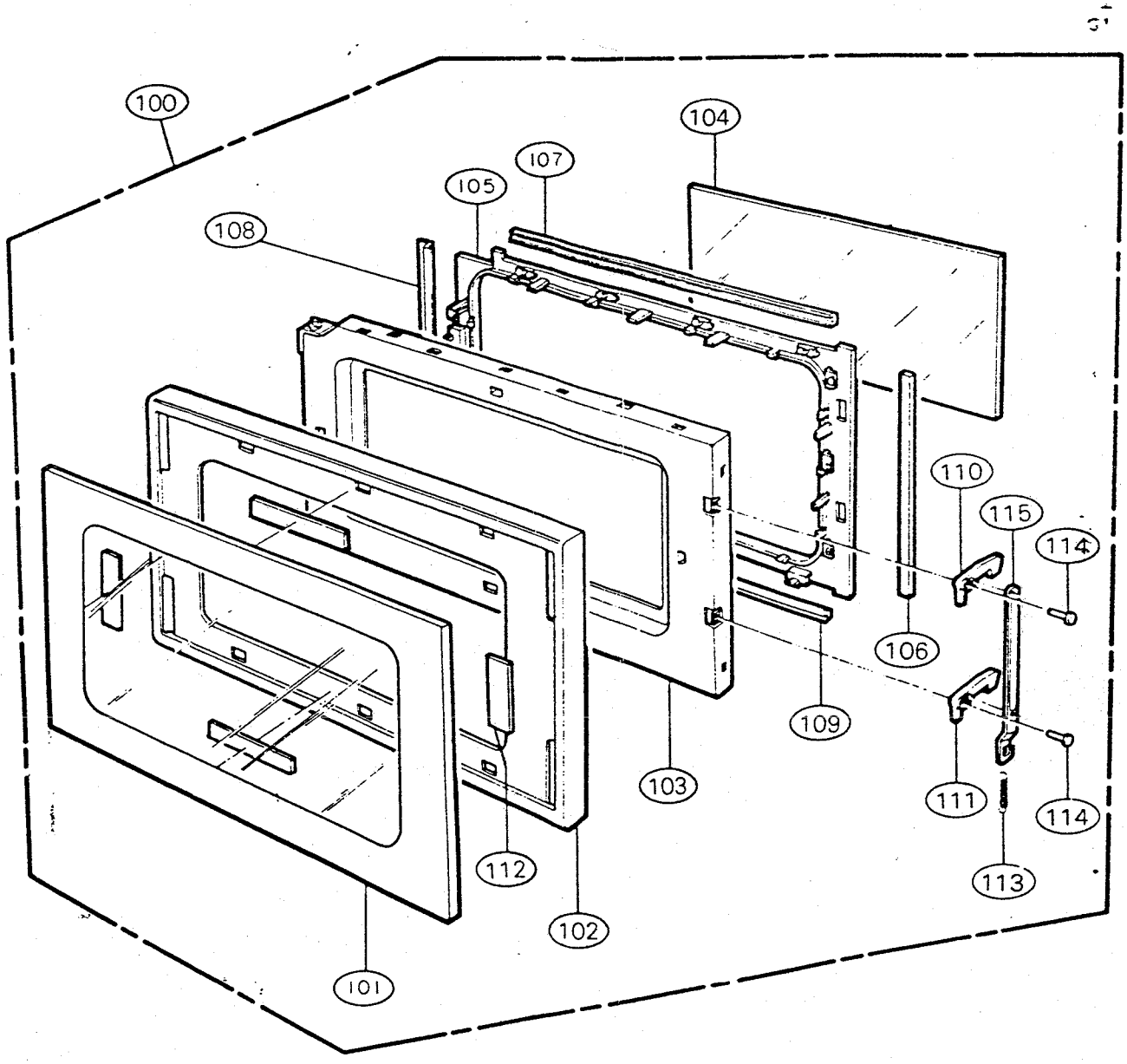
NOTE:
- A MICROWAVE ENERGY TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.
- MAKE SURE THE WIRE LEADS ARE IN THE CORRECT POSITION.
- WHEN REMOVING THE WIRE LEADS FROM THE PARTS, BE SURE TO GRASP THE CONNECTOR, NOT THE WIRES.

(TROUBLE 5) Oven does not cook properly when programmed for power level 1 through power level 4. (Operates properly on FULL.)

INTRODUCTION



A. DOOR PARTS


100
104
107
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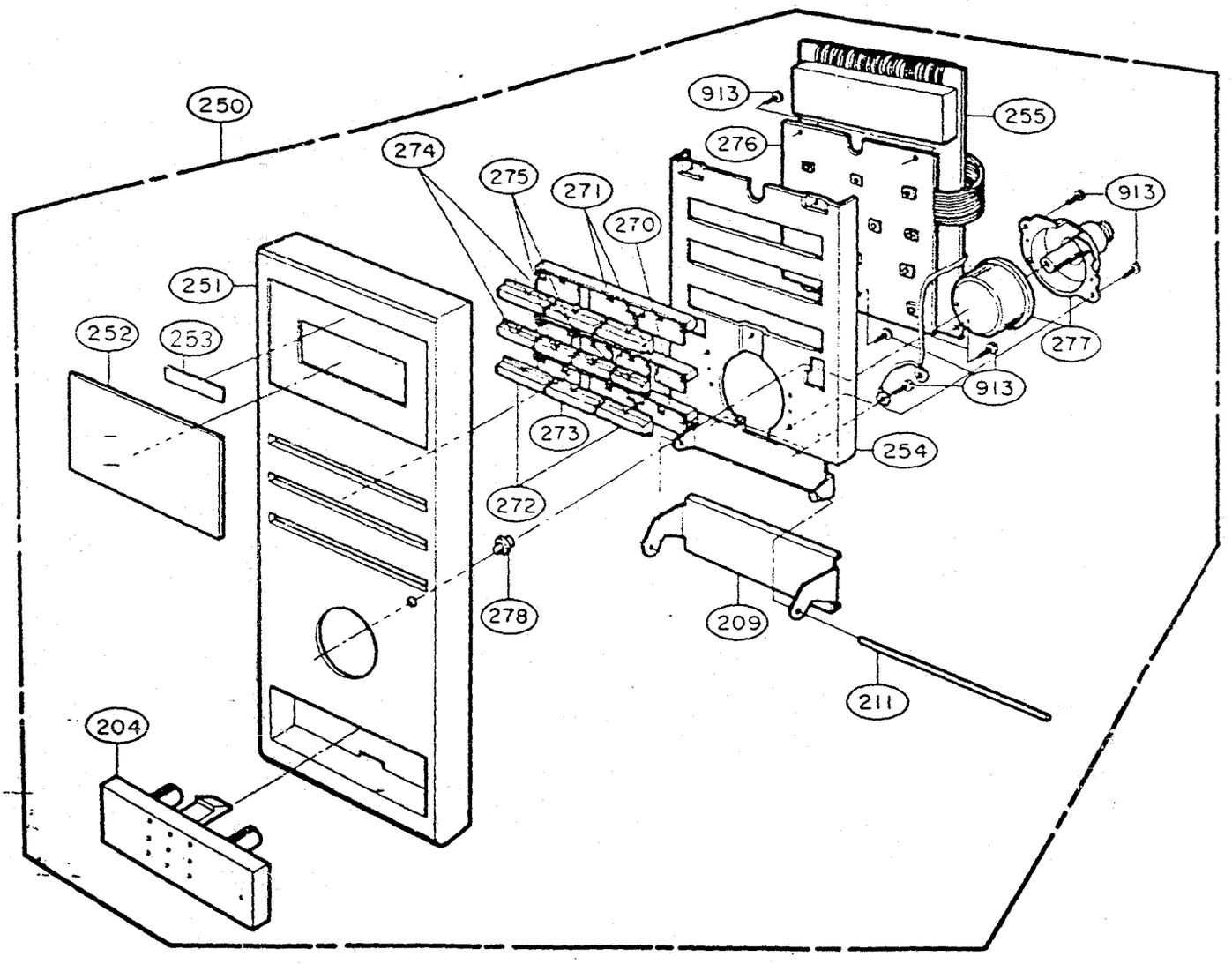
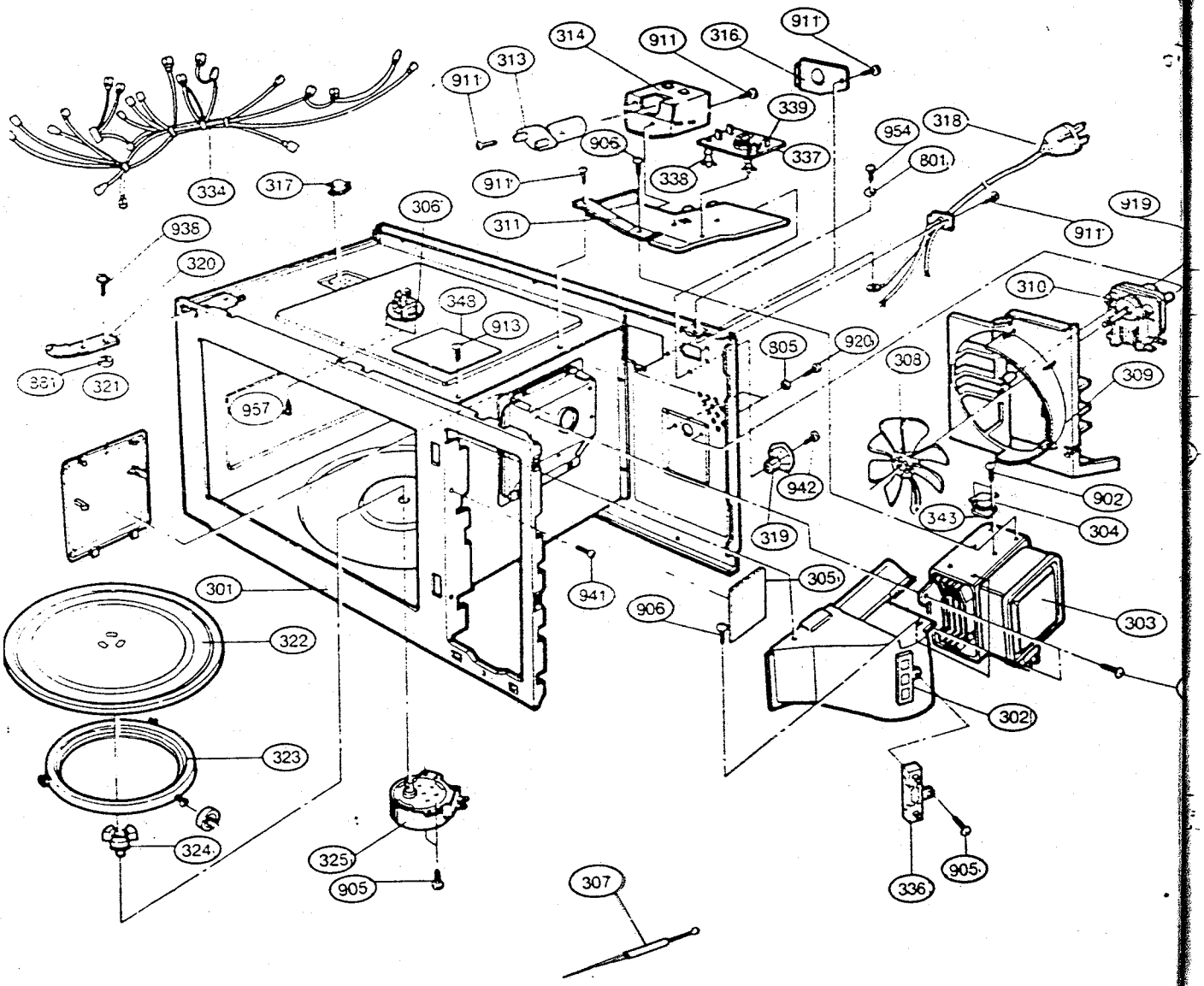
103
111
114
112
113
102
101

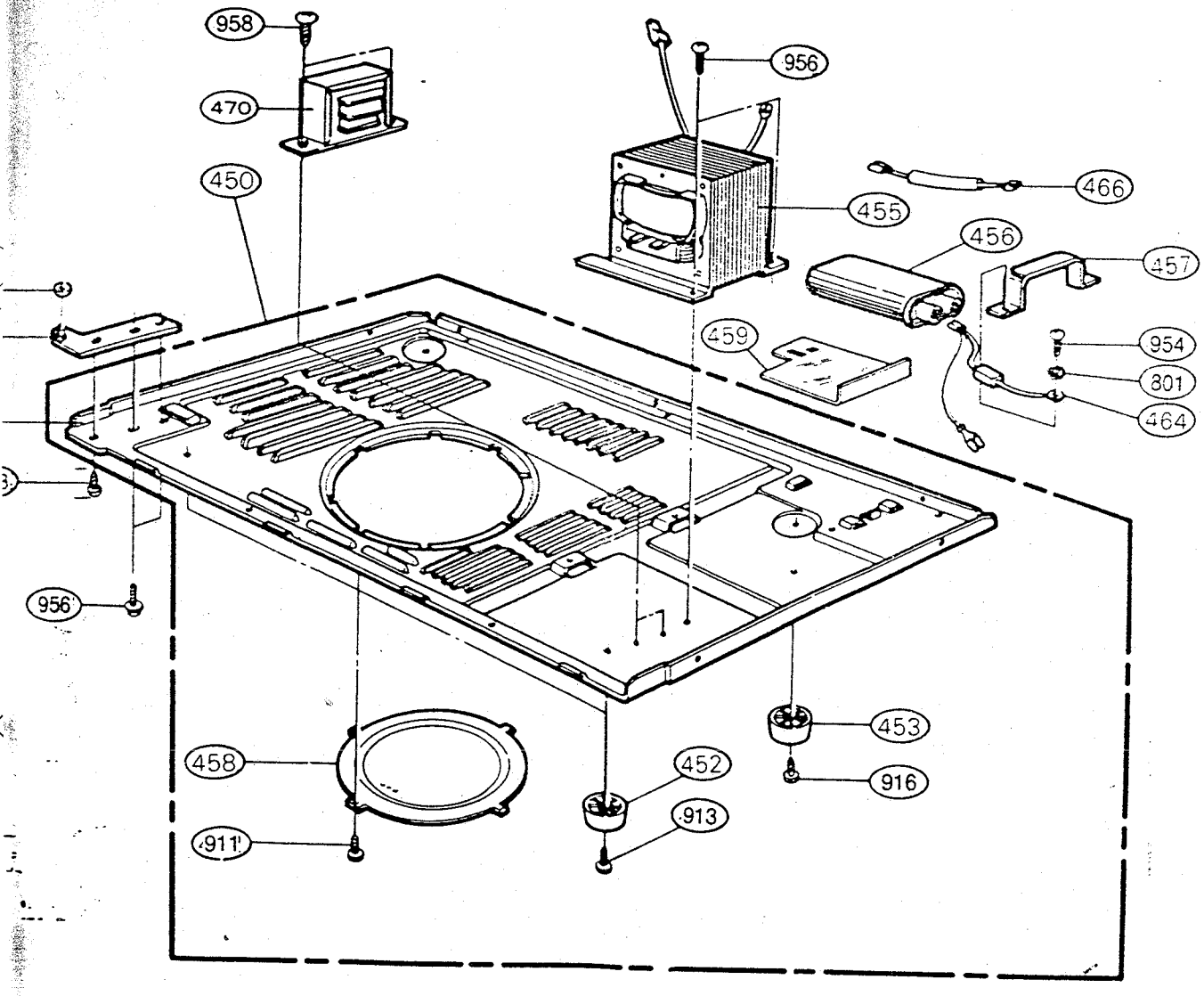
B. CONTROLLER PARTS



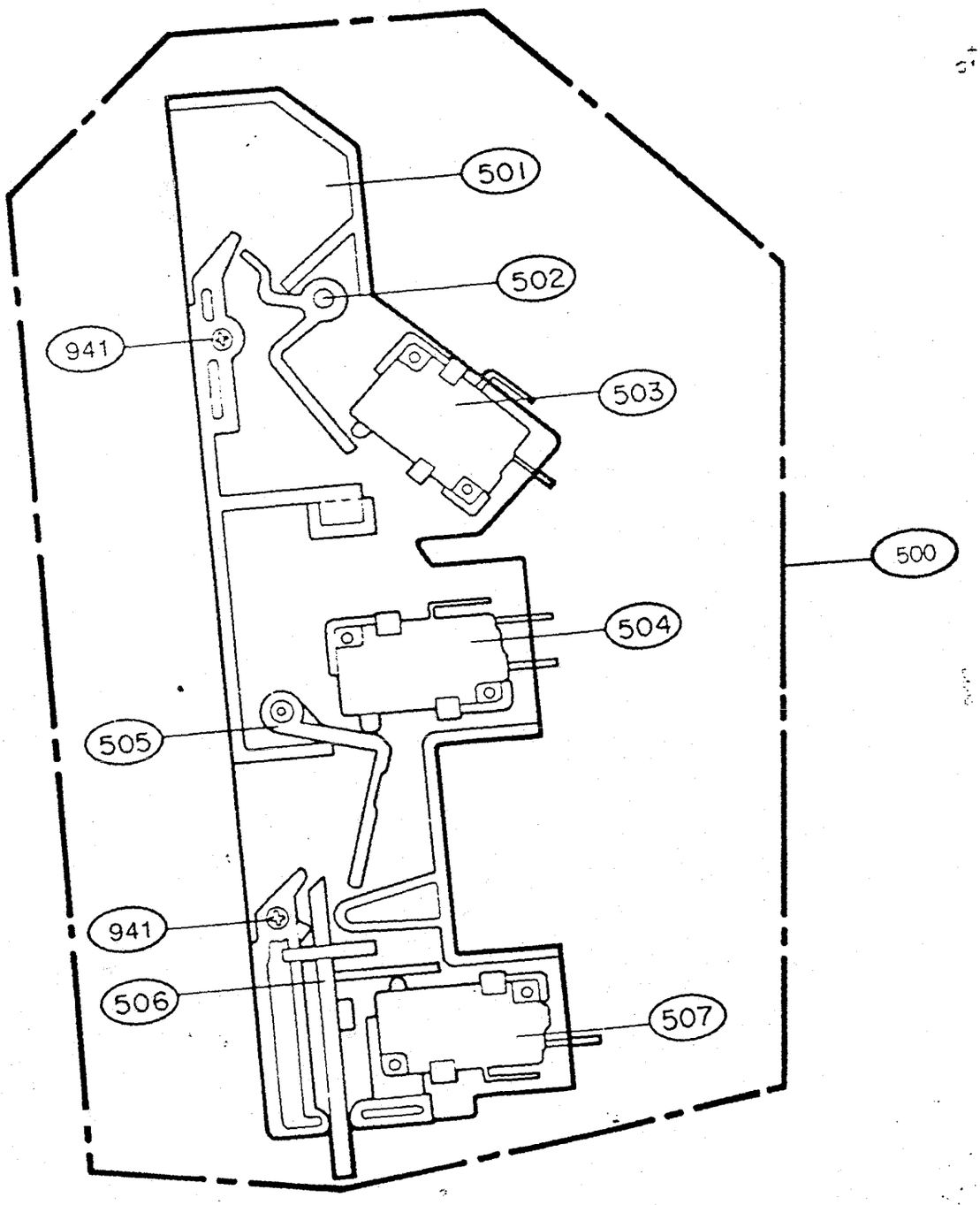
C.OVEN INTERIOR PARTS



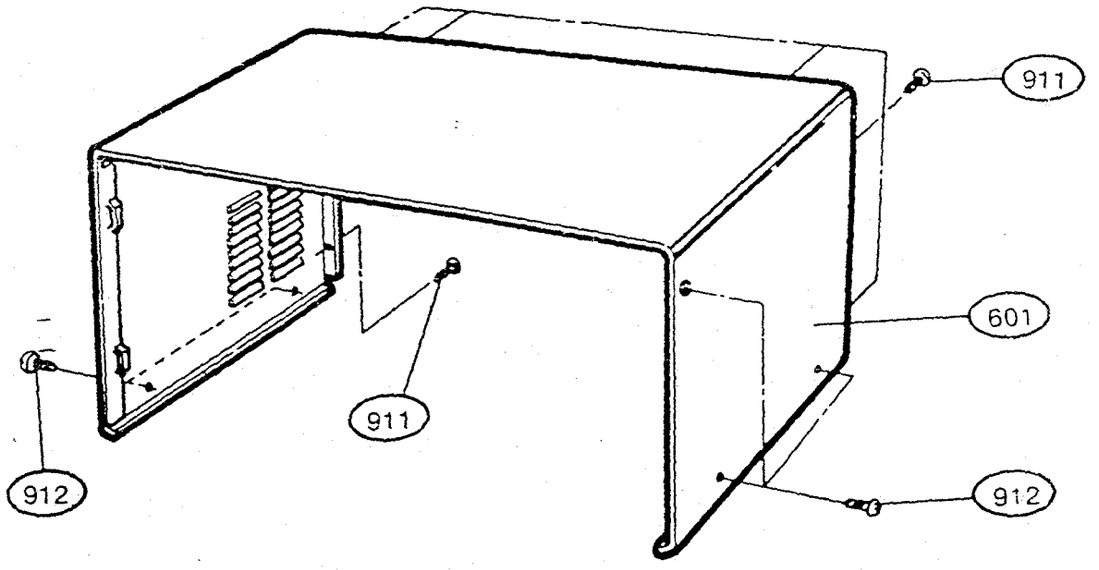
BASE PLATE PARTS



E. LATCH PARTS



F. OUT CASE PARTS



REPLACEMENT PARTS LIST

LOCATION NO.	PART NO.	DESCRIPTION	REMARKS
A. DOOR PARTS			
100	1B71952T	DOOR GROSS ASM	S
101	2B72887J	FRONT SCREEN	
102	1B71019B	DOOR PANEL	
103	1B71020A	DOOR FRAME ASM	
104	2B71078X	SEAL TAPE	
105	1B71023A	CHOKE COVER	
106	2B72866B	FERRITE RUBBER-L	
107	3B72882J	FERRITE RUBBER-C	
108	3B72867A	FERRITE RUBBER-R	
109	3B72882K	FERRITE FUBBER-D	
110	3B72822A	LATCH-U	
111	3B72823A	LATCH-L	
112	53407019	TOYO TAPE	
113	4B71568A	LATCH SPRING	
114	4B71564B	LATCH PIN	
115	4B73017A	LATCH LEVER	
B. CONTROLLER PARTS			
204	3B72168A	RELEASE BUTTON	S
209	3B72153A	RELEASE LEVER	S
211	4B73340A	PIN	S
250	2B72272A	CONTROLLER	
251	1B71094A	CONTROL PANEL	S
252	4B73172G	DIGITRON WINDOW	S
253	53407019	TOYO TAPE	S
254	2B71787A	CONTROL BRACKET	S
255	2Q10244B	PCB SUB ASM	S
	3B72261A	BUTTON GUIDE-C	S
	3B72250A	BUTTON GUIDE-B	S
272	4B73217C	BUTTON-Co	S
273	4B73216C	BUTTON-C	S
274	4B73215C	BUTTON-Bo	S
275	4B73214C	BUTTON-B	S
276	2Q10290A	TACTILE PCB ASM	S
277	3B7244B	VOLUME ASM	S
278	4B73211A	CLOCK BUTTON	S
C. OVEN INTEERIOR PARTS			
301	1B71012E	OVEN CAVITY ASM	
302	2B71668A	DUCT-L	S
303	2B71732B	MAGNETRON	S
304	3B70069K	M.G.T. THERMOSTAT	S
305	54103140	P.E TAPE	S
306	3B72917A	TEMP PROBE SOCKET ASM	S

LOCATION NO.	PART NO.	DESCRIPTION	REMARKS
C. OVEN INTERIOR PARTS			
307	2B71107B	TEMPERATURE PROBE	S
308	2B70309C	PROPELLER	S
309	2B71672A	SUCTION GUIDE	S
310	2B72439A	FAN MOTOR ASM	S
311	2B71670A	MGT BRACKET	S
313	3B71543D	BASELESS LAMP	S
314	2B71768A	LAMP BRACKET	S
316	4B73018A	LAMP COVER	S
317	3B70069M	OVEN THERMOSTAT	S
318	2B71877C	RPWER CORD ASM	S
319	4B70774A	SPACER	S
320	3B72518A	HIGE PLATE-U	S
321	3B72054B	WAVE GUIDE CAP	S
322	1B7108A	GLASS TURN TABLE	S
OR	1B71018B	GLASS TURN TABLE	S
323	2B72025D	ROTATING RING ASM	S
324	3B72373A	TURN TABLE SHAFT	S
325	2B71850C	SYNCHRONOUS MOTOR	S
OR	2B71932C	SYNCHRONOUS MOTOR	S
334	1B71459B	LEAD WIRE ASM	S
336	3B71807A	MONITOR RESISTOR	S
337	2B72130B	NOISE FILTER ASM	S
338	4B73792C	PCB SUPPORT	S
339	4B71248D	FUSE	S
343	4B73138A	THERMO INSULATOR	S
348	3B72827A	SCHEMATIC DIAGRAM	S
D. BASE PLATE PARTS			
450	1B71017A	BASE PLATE ASM	S
451	1B71016A	BASE PLATE	S
452	3B70746B	LEG	S
453	3B70397B	LEG	S
454	3B72061A	HINGE PLATE L-ASM	S
455	2B72426A	H.V. TRANS	S
456	3B71858B	H.V. CAPACITOR	S
OR	3B1774R	H.V. CAPACITOR	S
457	4B70728A	CAPACITOR BRACKET	S
458	3B72112A	BASE COVER	S
459	4B74049A	P.E. INSULATOR	S
464	3B733488	H.V. DIOKE CABLE ASM	S
466	3B72892C	H.V. FUSE	S
470	2Q71036G	LV. TRANS	S

LOCATION NO.	PART NO.	DESCRIPTION	REMARKS
E. LATCH PARTS			
500	1B71155V	LATCH BOARD ASM	
501	2B71673A	LATCH BOARD	
502	4B73019A	SWITCH LEVER-A	
503	3B73362G	MICRO SWITCH(PRI.SW)	S
OR	3B70374C	MICRO SWITCH(PRI.SW)	S
504	3B73360E	MICTO SWITCH(MON.SWO	S
OR	3B70374A	MICRO SWITCH(MON.SW)	S
505	4B73547A	SWITCH LEVER-35	S
506	4B73722A	RELEASE ROD	S
507	3B73362B	MICRO SWITCH(SEC.SW)	S
OR	3B73362C	MICRO SWITCH(SEC.SW)	S
F. OUT CASE PARTS			
601	1B71025B	OUT CASE	
OR	1B71025L	OUT CASE	

S:SERVICE PARTS

MISCELLANEOUS				
LOCATION NO.	PART NO.	DESCRIPTION	SPECIFI-CATION	RE-MARKS
801	4H00056C	TOOTH WASHER		S
805	1WSD040030	SPRING WASHER		S
817	4B70045B	HINGE WASHER		S
881	1NHA2500015	HEXAGON NUT		S
902	1TPL03024*3	TAPPING SCREW		S
905	1TPL04024*6	TAPPING SCREW		S
906	1SBF042418	TAP TITE SCREW		S
911	1TTL0432415	TAPPING SCREW		S
912	1TTL0432422	TAPPING SCREW		S
913	1TTL04326*5	TAPPING SCREW		S
916	1TT02244J	TAPPING SCREW		S
919	1TTL04036*5	TAPPING SCREW		S
920	1MTC0402E*8	MACHINE SCREW		S
938	4B70654A	SPECIAC SCREW-G		S
941	4B70186B	SPECIAL SCREW-D		S
942	4B71169A	SPECIAC SCREW		S
954	1SBF04024*3	MACHINE SCREW		S
956	4B73763A	TAP TITE SCREW		S
957	1TTL03026*3	TAPPING SCREW		S
958				